

## REMARKS

After entry of this Amendment, the pending claims are: claims 20-55. The Office Action dated February 22, 2007 has been carefully considered. Claims 1-19 were previously canceled. Claims 20, 31 and 32 have been amended. The Examiner is thanked for the indication of allowable subject matter in claim 32. As an initial matter claim 32 has been amended to include substantially all of the limitations of independent claim 20 and intervening claim 31. Claims 38-55 have been added. No new matter has been added. Reconsideration and allowance of the present application in view of the above Amendments and the following Remarks is respectfully requested.

In the Office Action dated February 22, 2007, the Examiner:

- rejected claims 20-26, 31, and 33-37 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,919,235 to Husson *et al.* ("Husson");
- rejected claims 27-30 under 35 U.S.C. 103(a) as being unpatentable over Husson; and
- objected to claim 32 as being dependent on a rejected base claim. Otherwise the subject matter of claim 32 would be allowable if rewritten in independent claim form to include all of the limitation of the base claim and any intervening claims.

## INDEPENDENT CLAIM 20

Independent claim 20 has been rejected as being anticipated by Husson. As amended, independent claim 20 requires an intervertebral disk prosthesis comprising a longitudinal, flexible homogenous member adapted to be wound in a spiral shape, and having an exterior end and an interior end; wherein the width of the member decreases from a first point located between the ends to the interior end.

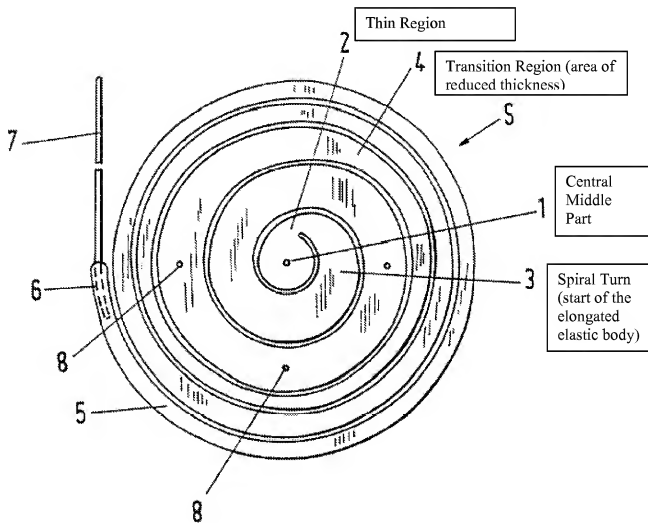
As stated in the specification, France Patent No. 2 712 486 and European Patent No. 0 773 008 (which is the European equivalent to Husson) both disclose a spirally-wound intervertebral prosthesis. To enable the winding of these prosthesis into a spiral shape, these known prosthesis require a cylindrical center piece to which the tape is attached and then wound around. Disadvantages associated with these known prosthesis include (a) the relatively large cylindrical center piece to which the elongated, spiral-shaped object is attached and (b) the transition, usually via a linking component, between the relatively large center piece and the relatively narrow tape. The linking component often having a lesser width which acts as a joint. (See page 1, line 9 to page 2, line 8).

The invention as claimed in independent claim 20 attempts to overcome these disadvantages by requiring an intervertebral disk prosthesis or nucleus prosthesis that does not require a cylindrical center piece about which the elongated prosthesis is wound.

It is respectfully submitted that Husson discloses an intervertebral prosthesis that includes a cylindrical center piece. More specifically, Husson discloses an elongated elastic body, which takes on the form of a spiral S, the elongated elastic body including a central middle part 1, a thin region 2, and a spiral turn 3. The central middle part 1, which is essentially in the form of a cylinder, is joined to the spiral turn 3 by a thin region 2 which provides a form-fitted transition between the central middle part 1 and the spiral turn 3. (See column 4, lines 28-33). The spiral turns 3 connected to the transition region 2 are form-fitted and have a constant breadth between 2 mm and 5 mm so that canting under the loads can be excluded to the greatest extent possible. (See column 4, lines 40-43). The elongated elastic body comprises preferably 2 to 4 turns, which is proof against canting. (See column 4, lines 43-44). This is

followed by a transition region 4 in which the breadth of the elongated elastic body is reduced to such an extent that an easy separation is possible, *e.g.* in about the region 5. (See column 4, lines 44-47).

Alternatively, the thickness of the elongated elastic body, which forms the spiral S, can decrease steadily from the inside outwards so that no special transition region 2 is required. (See column 4, lines 53-56).



Thus, contrary to the Examiner's assertion, it is respectfully submitted, that part 2 can not be interpreted as the area of reduced thickness, as required by independent claim 20, since part 2 defines a transition region that interconnects the spiral turn 3 (*i.e.*, the elongated elastic body) to the central middle part 1. Part 2 is not part of the homogenous intervertebral disk prosthesis as required by independent claim 20. Thus, properly interpreted, Husson discloses a central middle part 1 that is connected to a thin region 2, wherein the thin region 2 acts as a joint for interconnecting the central middle part 1 to the spiral turn 3 (*i.e.*, the elongated elastic body). The spiral turn 3 having a constant cross-sectional width until transition region 4, wherein the spiral turn 3 may have a reduced cross-sectional width. Therefore, it is respectfully submitted that Husson does not disclose, teach, or suggest a longitudinal, flexible homogenous member adapted to be wound in a spiral shape, the longitudinal, flexible homogenous member having an exterior end and an interior end; wherein the width of the member decreases from a first point located between the ends to the interior end.

For at least the above-identified reason, it is respectfully submitted that Husson does not disclose, teach or suggest all of the limitations of independent claim 20. Thus, it is respectfully submitted that independent claim 20 is allowable over the cited prior art. Withdrawal of this rejection and allowance of independent claim 20 is respectfully requested.

Furthermore, as claims 21-30 and 33-36 all depend from independent claim 20, thus it is submitted that these claims are equally allowable. Withdrawal of these rejections and allowance of claims 21-30 and 33-36 is also respectfully requested.

## **INDEPENDENT CLAIM 32**

As an initial matter, the Examiner is thanked for the indication of allowable subject matter in claim 32. Claim 32 was objected to as being dependent on a rejected base claim. Otherwise the subject matter of claim 32 was indicated as being allowable if it was rewritten in independent claim form to include all of the limitation of the base claim and any intervening claims. Independent claim 32 has been amended to include all of the limitations of independent claim 20 and substantially all of the limitations of intervening claim 31. Independent claim 32 has not been amended to include the limitation "wherein the member is manufactured using an injection-molding process" as such limitation is not required to distinguish the cited prior art.

Thus, it is respectfully submitted that Husson does not disclose, teach or suggest all of the limitations of independent claim 32. Thus, it is respectfully submitted that independent claim 32 is allowable over the cited prior art. Withdrawal of this rejection and allowance of independent claim 32 is respectfully requested.

Furthermore, as claim 31 has been amended to depend from independent claim 32, it is respectfully submitted that claim 31 is equally allowable. Withdrawal of this rejection and allowance of claim 31 is also respectfully requested.

### **INDEPENDENT CLAIM 37**

Independent claim 37 has been rejected as being anticipated by Husson. Independent claim 37 requires an intervertebral disk prosthesis comprising a longitudinal, flexible member adapted to be wound in a spiral shape, and having an exterior end and an interior end, and an injection point positioned near the interior end; wherein the member is manufactured using an injection-molding process.

It is respectfully submitted that Husson discloses an intervertebral prosthesis having an elongated elastic body, which takes on the form of a spiral S when spirally wound. The prosthesis being implanted via a band like stiffening member 7 and an instrument tool. There is absolutely no disclosure, teaching or suggestion of an injection point positioned near the interior end of the longitudinal, flexible member.

Thus, it is respectfully submitted that Husson does not disclose, teach or suggest all of the limitations of independent claim 37. Thus, it is respectfully submitted that independent claim 37 is allowable over the cited prior art. Withdrawal of this rejection and allowance of independent claim 37 is respectfully requested.

### **NEWLY ADDED INDEPENDENT CLAIM 38**

Newly added independent claim 38 requires, *inter alia*, a prosthesis having a longitudinal central axis, the prosthesis being sized and configured for insertion between first and second adjacent vertebral bodies, the prosthesis comprising a longitudinal, flexible homogenous member adapted to be wound in a spiral shape, the longitudinal, flexible homogenous member having an exterior end, an interior end and a

cross-sectional width, the cross-sectional width being substantially perpendicular to the to the longitudinal axis of the prosthesis, wherein the width of the member decreases from a first point, located between the interior and exterior ends, to the interior end.

As described above in connection with independent claim 20, part 2 in Husson can not be interpreted as an area of reduced thickness, as required by independent claim 38, since part 2 defines a transition region that interconnects the spiral turn 3 (*i.e.*, the elongated elastic body) to the central middle part 1. As such, part 2 is not part of the homogenous intervertebral disk prosthesis as required by independent claim 38. Thus, properly interpreted, Husson discloses a central middle part 1 that is connected to a thin region 2, wherein the thin region 2 acts as a joint for interconnecting the central middle part 1 to the spiral turn 3 (*i.e.*, the elongated elastic body). The spiral turn 3 having a constant cross-sectional width until transition region 4, wherein the spiral turn 3 may have a reduced cross-sectional width. Therefore, it is respectfully submitted that Husson does not disclose, teach, or suggest a longitudinal, flexible homogenous member adapted to be wound in a spiral shape, the longitudinal, flexible homogenous member having an exterior end, an interior end, and a cross-sectional width, wherein the width of the member decreases from a first point, located between the interior and exterior ends, to the interior end.

In addition, newly added independent claim 38 requires, *inter alia*, a prosthesis comprising a longitudinal, flexible homogenous member adapted to be wound in a spiral shape, the longitudinal, flexible homogenous member having an exterior end, an interior end and a cross-sectional width, the

interior end of the longitudinal, flexible homogenous member being sized and configured to form a relatively flexible zone.

It is respectfully submitted that Husson does not disclose, teach, or suggest a longitudinal, flexible homogenous member having an exterior end and an interior end wherein the interior end of the longitudinal, flexible homogenous member being sized and configured to form a relatively flexible zone. Rather, as previously described above in connection with independent claim 20, Husson discloses an elongated elastic body, which takes on the form of a spiral S, the elongated elastic body including a central middle part 1, a thin region 2, and a spiral turn 3. The central middle part 1, which is essentially in the form of a cylinder, is joined to the spiral turn 3 by a thin region 2 which provides a form-fitted transition between the central middle part 1 and the spiral turn 3. (*See* column 4, lines 28-33). The spiral turns 3 are connected to the transition region 2.

For at least the above-identified reasons, it is respectfully submitted that Husson does not disclose, teach or suggest all of the limitations of newly added independent claim 38. Thus, it is respectfully submitted that independent claim 38 is allowable over the cited prior art. Furthermore, as newly added dependent claims 39-55 all depend from independent claim 38, it is submitted that these claims are equally allowable.

## **CONCLUSION**

A fee of \$790.00 for the filing of the Request for Continued Examination along with the fee of \$1,000.00 for the addition of new claims is believed due with this submission. The Commissioner is



hereby authorized to charge this fee and any other fee which may now or hereafter be due in this application to Deposit Account No. 19-4709.

In the event that there are any questions, or should additional information be required, please contact Applicants' attorney at the number listed below.

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Respectfully submitted,

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